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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/781,799	02/20/2004	John W. Peel	59-646	5178

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EXAMINER	
BLOUNT, ERIC	
ART UNIT	**PAPER NUMBER**
2612	

DATE MAILED: 11/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/781,799	PEEL ET AL.	
	Examiner	Art Unit	
	Eric M. Blount	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *31 August 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10 and 19* is/are allowed.

6)☒ Claim(s) *1-9, 11-18, and 20-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to arguments

1. Applicant's arguments, see amendment, filed August 31, 2006, with respect to the rejection(s) of the claim(s) under 35 USC § 103 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Nakamura.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-9, and 33, are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al [US 6,954,145 B2] in view of Wagner [Pub No. US 2004/0174260 A1].

With regards to **claims 1 and 33**, Nakamura discloses a shipping container system comprising at least one shipping container sensor adapted to be attached to a first shipping container to sense a national security condition of the first shipping container (column 1, lines 14-30 and column 3, lines 33-38).

Nakamura does not disclose communication of the national security condition from the first shipping container to a second shipping container. In an analogous art for tracking a shipping container, Wagner discloses a shipping container tracking system comprising at least one shipping container sensor adapted to be attached to a first shipping container. The shipping

container has a communication adapter to adaptively communicate the condition of the first shipping container to a second shipping container (paragraphs 10, 30, 37, and 46). It was well known in the art for a plurality of shipping containers to be stacked and shipped on a boat. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Nakamura to include the communication system taught by Wagner because the modification would result in a system that would allow each of a plurality of shipping containers to reliably report a condition regardless of its position on the ship.

As for **claim 2**, the tracking system may comprise at least one of a satellite communication adapter and a radio adapter (Wagner, paragraphs 37 and 48).

As for **claims 3 and 6**, the shipping container communication adapter connects the first shipping container to an Ad-Hoc network (Wagner, paragraph 37 and Figure 2).

Regarding **claims 4 and 5**, neither Nakamura nor Wagner specifically disclose that the Ad-hoc network in the invention is a Bluetooth, UWB, or Wi-Fi network. However, examiner takes official notice that the use of Bluetooth, UWB, or Wi-Fi to establish a communications network was well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Nakamura as modified by Wagner to include Bluetooth, UWB, or Wi-Fi. Any of these communications networks would have been advantageous because of their low-power characteristics, availability, and familiarity to one of ordinary skill in the art. As for the use of a hard-wired network, this can be viewed as a matter of design choice.

As for **claim 7**, Wagner discloses that a radio adapter on a shipping container can communicate on a cellular communications network (paragraphs 51 and 52).

As for **claims 8 and 9**, Wagner discloses that a central location receives sensor data from at least one shipping container (paragraphs 53-54). Wagner does not specifically disclose that a central database is present. However, it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that a memory of some sort be present at the central monitoring station. The monitoring station would have to have a memory to compare the present content or conditions of a shipping container with those of the container before shipment (Wagner, paragraphs 55-57). Comparing sensor data to thresholds and predetermined values reasonably appears to meet the limitation of verifying the contents of the first shipping container by processing the condition of the first shipping container against a manifest database (paragraphs 50, 51, 57, and 109). As discussed in claim 1, the sensor data relates to a national security condition.

4. Claims 11-18 and 20-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Wagner, as applied to the claims above, and further in view of Woolley et al [U.S. Patent No. 5,774,876].

With regards to **claims 11 and 20**, Nakamura discloses a system of monitoring a national security condition of a shipping container. Wagner discloses a method of distributing data obtained from sensors adaptively attached to a shipping container comprising, establishing a network connection between a first shipping container and a second shipping container. Sensor data will be transferred from a first shipping container to a second shipping container when the first shipping container is unable to transmit data directly to an off ship transmission path and a

shipboard system (Wagner, paragraphs 10 and 43). The data transfer will take place whether hazard detection occurs or not.

In an analogous art, Woolley discloses a method of distributing data obtained from sensors adaptively attached to a shipping container comprising establishing a network between a first shipping container, second shipping container, and a vehicle driver cabin. Relevant information is sent through the tags to the driver. The concept of relaying messages would be the same regardless of the transporting vehicle. A truck or train as described in the Woolley reference are both vehicles for transporting shipping containers, likewise, a ship as described in the present invention is a vehicle for transporting shipping containers. Receiving a communication in the driver cabin of a truck or train would allow the operator to determine the condition of the containers being shipped and take action if necessary. Similarly, receiving a communication at a ship's bridge would allow the operator of the ship to determine the condition of the shipping containers and take appropriate actions. While the network taught by Woolley is described as being on a land vehicle, one of ordinary skill in the art would have recognized that the concept would be implemented on any shipping vehicle. Whether on land or at sea, it would have been important to monitor the condition of the shipping containers. Hazard detection is considered relevant information that would be communicated to driver (Woolley, column 18, lines 5-22). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Nakamura as modified by Wagner to include a monitoring station (vehicle cabin/ship's bridge) located on the vehicle so that an operator would be able to ascertain hazard conditions and take the appropriate actions for correcting the problem.

As for **claims 12 and 21**, Wagner discloses a means for reforming a network. This means allows the system to add and remove containers from the network (paragraphs 42-44). One of ordinary skill in the art would recognize would have recognized that reforming the network would involve detecting and/or monitoring the path of radio signals between the first and second shipping containers.

As for **claims 13 and 22**, sensor data from a second shipping container can be transferred to at least one of a satellite data path, radio data path, and a shipboard system (Wagner, paragraph 37). Paragraph 37 shows that sensor data may be relayed to other containers using a radio data path.

As for **claims 14, 16, 23, and 25**, the shipping container communication adapter connects the first shipping container to an Ad-Hoc network (Wagner, paragraph 37 and Figure 2).

Regarding **claims 15, 17, 24, and 26**, none of the aforementioned inventions specifically disclose that the Ad-hoc network in the invention is a Bluetooth, UWB, or Wi-Fi network. However, one of ordinary skill in the art would have recognized that the use of Bluetooth, UWB, or Wi-Fi to establish an ad-hoc communications network was well known in the art. The use of the any one of these low-power communications networks would have been obvious because of their availability and familiarity to one of ordinary skill in the art. As for the use of a hard-wired network, this can be viewed as a matter of design choice.

As for **claims 18 and 27**, Wagner discloses that a radio adapter on a shipping container can communicate on a cellular communications network (paragraphs 51 and 52).

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Wagner as applied to the claims above, and further in view of He et al [U.S. Patent No. 6,995,667 B2].

With regards to **claim 28**, Nakamura discloses a shipping container system for sense a condition of a shipping container and at least one item within the shipping container (column 3, lines 25-50). Wagner discloses a shipping container tracking system comprising at least one shipping container sensor adapted to be attached to a first shipping container to sense a condition of at least one item within the first shipping container. The shipping container has a communication adapter to adaptively communicate the condition of the first shipping container to a second shipping container (paragraphs 10, 30, 37, and 46). The tracking system may comprise at least one of a satellite communication adapter and a radio adapter (paragraphs 37 and 48). Wagner does not specifically disclose the inclusion of both a satellite and radio adapter.

In an analogous art for tracking and remote monitoring of shipped goods, He shows in column 6, lines 39-45 that a satellites and/or radio transmitters may be attached to the shipping containers. Further, He teaches that the communications devices (transmitters) may be presented in a modular form so that they are interchangeable (column 10, line 64 – column 11, line 13). This teaching suggests that a plurality of communications devices may be present on a shipping container. Using the teaching a skilled artisan would have placed appropriate communication means on appropriate locations of each shipping container. Further, using the teaching of He that the communication device is selected based on the application, it would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that if one communication adapter, on a shipping container including plural communication adapters, failed,

to use one of the other communication adapters which has not failed. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Nakamura as modified by Wagner to include the modular and interchangeable communication devices taught by He because the modification would allow the shipping containers to reliably transmit information over a long or short range and in different types of environments where one type of communication might be better than another.

As for **claim 29**, Wagner discloses that a radio adapter on a shipping container communicates on a cellular communications network (paragraphs 51 and 52).

Regarding **claim 30**, neither Nakamura, Wagner, nor He specifically disclose that the Ad-hoc network in the invention is a Bluetooth, UWB, or Wi-Fi network. However, examiner takes official notice that the use of Bluetooth, UWB, or Wi-Fi to establish a communications network was well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of Nakamura as modified by Wagner and He to include Bluetooth, UWB, or Wi-Fi. Any of these communications networks would have been advantageous because of their low-power characteristics, availability, and familiarity to one of ordinary skill in the art. As for the use of a hard-wired network, this can be viewed as a matter of design choice.

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura in view of Wagner, further in view of He, as applied to the claim 28 above, and in even further view of Woolley.

Regarding **claim 31**, neither Nakamura, Wagner, nor He specifically discloses communicating with a ship's bridge. In an analogous art, Woolley discloses a method of distributing data obtained from sensors adaptively attached to a shipping container comprising establishing a network between a first shipping container, second shipping container, and a vehicle driver cabin. Relevant information is sent through the tags to the driver (see discussion of claims 11 and 20 above).

7. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over He in view of Wagner.

As for **claim 32**, He discloses a shipping container for use in a shipping container tracking system comprising a shipping container housing, a satellite transmitter on the shipping container housing; or a radio transmitter on a side of the shipping container housing, and a GPS receiver located on the shipping container housing (column 3, lines 28-43). He discloses that the transmitters may be located at various locations on the shipping container. It would have been obvious to one of ordinary skill in the art to place the components at locations that provided optimum communication links. He shows in column 6, lines 39-45 that satellites and/or radio transmitters may be attached to the shipping containers. Further, He teaches that the communications devices (transmitters) may be presented in a modular form so that they are interchangeable (column 10, line 64 – column 11, line 13). It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant that each container could be provided with various communication devices located at various positions on the shipping container. A skilled artisan would have recognized (as suggested by He) that the use of

communications devices and their location would be determined by the system in which the devices would be used. He does not disclose that the radio transmitter can communicate with a second shipping container.

In an analogous art for tracking and monitoring shipped items, Wagner discloses a system wherein a radio adapter is used to facilitate communication between a first and second shipping container (see discussions above). A skilled artisan would have recognized that communication between a first and second shipping container would be advantageous in systems wherein a plurality of containers are stacked or arranged one on top of the other. It would have been obvious to one of ordinary skill in the art at the time of the invention by the applicant to modify the invention of He to include the communication between containers taught by Wagner because the combination would result in a more effective shipping container tracking and monitoring system that could monitor a plurality of shipping containers. The communication between containers would extend the range of the communication system by allowing containers that are out of range of a monitoring station to have their data relayed through in-range containers to the central monitoring station.

Allowable Subject Matter

8. **Claims 10 and 19** are allowed. The following is a statement of reasons for the indication of allowable subject matter:

a. Regarding claims 10 and 19, the prior art of record fails to sufficiently describe or suggest a shipping container tracking system comprising a line of intermediate communications buoys placed at sea at appropriate locations to at least one of test the

container tracking system functionality an to detect anomalies at a safe distance from port facilities. These along with other limitations render the claims allowable over the prior art.

Conclusion

9. It is noted that the Examiner Interview on August 10, 2006 was conducted between the applicants' representative: Mr. Dan Fiul, Examiner Blount, and Primary Examiner Benjamin Lee. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric M. Blount whose telephone number is (571) 272-2973. The examiner can normally be reached on Monday-Thursday 8:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel Wu can be reached on (571) 272-2964. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Eric M. Blount

Examiner
Art Unit 2612

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DANIEL WU
SUPERVISORY PATENT EXAMINER
11/13/06